CLAIMS

What is claimed is:

1.   A method for providing metadata within a Unicode character streams said

metadata describing information necessary for accurate display rendering of the

5   character stream, said method comprising the steps of:

inserting one or more metatags into a Unicode character stream by spelling the

tag identifier; and

inserting a metatag separator between multiple metatags if more than one

metatag has been inserted, so as to create a modified character stream having

10   separator-delimited metadata embedded within it.

2.   The method as set forth in Claim 1 further comprising the steps of:

inserting one or more parameters following at least one metatag with which it

is associated; and

inserting a parameter separator between multiple parameters associated with a

15   metatag if more than one parameter has been inserted so as to create a

separator-delimited parameter list following a metatag.

3.   The method as set forth in Claim 1 wherein said step of inserting one or more

metatags into a Unicode character stream comprises inserting an element metatag

describes zero width joiner and zero width non joiner characters, such that multiple

characters may be grouped together for treatment as a single grapheme or text element.

4.   The method as set forth in Claim 2 wherein said step of inserting one or more metatags comprises inserting a paragraph metatag, and wherein said step of inserting

5   one or more parameters comprises inserting a right-to-left or a left-to-right directional parameter following a paragraph metatag which indicate a direction in which the character stream following the paragraph metatag and parameter is to be rendered for display.

5.   The method as set forth in Claim 2 wherein said step of inserting one or more

10   metatags comprises inserting a direction metatag, and wherein said step of inserting one or more parameters comprises inserting a right-to-left or a left-to-right directional parameter following a direction metatag which indicate a direction in which the character stream following the direction metatag and parameter is to be rendered for display.

15   6.   The method as set forth in Claim 5 wherein said steps of inserting one or more metatags and inserting one or more parameters following metatags comprise the steps of replacing hyper text markup language bi-directional output (BDO) tags with said direction metatags and directional parameters.

7.   The method as set forth in Claim 2 wherein said step of inserting one or more

metatags comprises inserting a mirror metatag which indicates the characters

following the mirror metatag is to be presented in mirror fashion.

8.   The method as set forth in Claim 2 wherein said step of inserting one or more

5   metatags comprises inserting a math metatag and a language metatag such that

portions of the character stream which represent mathematical expressions are

delimited from portions of the character stream which represent language.

9.   A computer readable medium encoded with software causing a computer to

perform the following actions for embedding display rendering metadata into

10   character streams:

       insert one or more metatags into a Unicode character stream by spelling the

tag identifier; and

       insert a metatag separator between multiple metatags if more than one metatag

has been inserted, so as to create a modified character stream having

15   separator-delimited metadata embedded within it.

10.   The computer readable medium as set forth in Claim 9 further comprising

software for performing the following actions:

       insert one or more parameters following at least one metatag with which it is

associated; and

insert a parameter separator between multiple parameters associated with a

metatag if more than one parameter has been inserted so as to create a

separator-delimited parameter list following a metatag.

11.   The computer readable medium as set forth in Claim 9 wherein said software

5   for inserting one or more metatags into a Unicode character stream comprises

software for inserting an element metatag describes zero width joiner and zero width

non joiner characters, such that multiple characters may be grouped together for

treatment as a single grapheme or text element.

12.   The computer readable medium as set forth in Claim 10 wherein said software

10   for inserting one or more metatags comprises software for inserting a paragraph

metatag, and wherein said software for inserting one or more parameters comprises

software for inserting a right-to-left or a left-to-right directional parameter following a

paragraph metatag which indicate a direction in which the character stream following

the paragraph metatag and parameter is to be rendered for display.

15   13.   The computer readable medium as set forth in Claim 10 wherein said software

for inserting one or more metatags comprises software for inserting a direction

metatag, and wherein said software for inserting one or more parameters comprises

software for inserting a right-to-left or a left-to-right directional parameter following a

direction metatag which indicate a direction in which the character stream following

the direction metatag and parameter is to be rendered for display.

14.   The computer readable medium as set forth in Claim 13 wherein said software

for inserting one or more metatags and inserting one or more parameters following

5   metatags comprise software for replacing hyper text markup language bi-directional

output (BDO) tags with said direction metatags and directional parameters.

15.   The computer readable medium as set forth in Claim 9 wherein said software

for inserting one or more metatags comprises software for inserting a mirror metatag

which indicates the characters following the mirror metatag is to be presented in

10   mirror fashion.

16.   The computer readable medium as set forth in Claim 9 wherein said software

for inserting one or more metatags comprises software for inserting a math metatag

and a language metatag such that portions of the character stream which represent

mathematical expressions are delimited from portions of the character stream which

15   represent language.

17.   A system for embedding metadata within a Unicode character stream, said

metadata describing information necessary for accurate display rendering of the

character stream, said system comprising:

a metatag inserter for inserting one or more metatags into a Unicode character

stream by spelling the tag identifier; and

a tag separator inserter for inserting a metatag separator between multiple

metatags if more than one metatag has been inserted, which creates a modified

5   character stream having separator-delimited metadata embedded within it.

18.   The system as set forth in Claim 17 further comprising:

a parameter inserter for inserting one or more parameters following at least

one metatag with which it is associated; and

a parameter separator inserter for inserting a parameter separator between

10   multiple parameters associated with a metatag if more than one parameter has been

inserted, which creates a separator-delimited parameter list following a metatag.

19.   The system as set forth in Claim 17 wherein said metatag inserter is adapted to

insert an element metatag which describes zero width joiner and zero width non joiner

characters, such that multiple characters may be grouped together for treatment as a

15   single grapheme or text element.

20.   The system as set forth in Claim 18 wherein said metatag inserter is adapted to

insert a paragraph metatag, and wherein said parameter inserter is adapted to insert a

right-to-left or a left-to-right directional parameter following a paragraph metatag

which indicate a direction in which the character stream following the paragraph

metatag and parameter is to be rendered for display.

21.   The system as set forth in Claim 18 wherein said metatag inserter is adapted to

insert a direction metatag, and wherein said parameter inserter is adapted to insert a

5   right-to-left or a left-to-right directional parameter following a direction metatag

which indicate a direction in which the character stream following the direction

metatag and parameter is to be rendered for display.

22.   The system as set forth in Claim 21 wherein said metatag inserter and said

parameter inserter are adapted to replace hyper text markup language bi-directional

10   output (BDO) tags with said direction metatags and directional parameters.

23.   The system as set forth in Claim 18 wherein said metatag inserter is adapted to

insert a mirror metatag which indicates the characters following the mirror metatag is

to be presented in mirror fashion.

24.   The system as set forth in Claim 18 wherein said metatag inserter is adapted to

15   insert a math metatag and a language metatag such that portions of the character

stream which represent mathematical expressions are delimited from portions of the

character stream which represent language.